

**REMARKS**

Applicant would like to thank the Examiner for the courtesies shown to Applicant's representatives during the interview conducted on June 2, 2009. The following remarks are in response to the Office Action mailed February 18, 2009 and commemorate the substance of the interview.

Claims 1-22 and 24-26 are pending in the subject application with entry of this paper.

Applicant acknowledges the indicated allowability of Claims 2-5 and 20-22.

Claims 1, 8, 17-21 and 24-26 have been amended to correct informalities or clarify the claimed subject matter.

**Finality of the Office Action**

As discussed during the interview conducted June 2, 2009, Applicant submits and the Office agreed that the finality of the instant Office Action is improper. First, Claims 1, 2, 4, and 19 were rejected under 35 U.S.C. § 112, first paragraph. This rejection constituted a new ground for rejection. Additionally, Claims 17 and 18 were not expressly rejected but were substantively rejected under the heading of "Claim Rejections – 35 USC § 112." This rejection of Claims 17 and 18 also constituted a new ground of rejection. No amendment occurred to Claims 17-18 in Applicant's previous paper, and the previous amendment to Claims 1, 2, 4 and 19 did not change the scope of the respective claims; therefore, the Office cannot (and did not) assert that an amendment to the claims necessitated the rejection. Reconsideration and withdrawal of the finality of the instant action is respectfully requested.

**Rejections under 35 U.S.C. § 112**

At paragraph 3 of the Action, the Office rejected Claims 1, 2, 4 and 19 under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the written description requirement. Support for the element “transmitted signals received by the mobile appliance” in Claims 1, 2, 4 and 19 is found at least at paragraph [0074]. Reconsideration and withdrawal of the rejection under Section 112, first paragraph is respectfully requested.

Claims 1, 17-18 and 23-25 were also rejected under 35 U.S.C. § 112, second paragraph as being allegedly indefinite for failing to point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant has cancelled Claim 23 without prejudice. Applicant has amended Claims 1, 17-18 and 24-25 to correct the informalities identified by the Office. Reconsideration and withdrawal of the rejections under Section 112 are respectfully solicited.

**Rejection under 35 U.S.C. § 102**

At paragraphs 5-6 of the Action, the Office improperly rejected Claims 17 and 18 under 35 U.S.C. § 102(e) as being anticipated by Durrant. As discussed and agreed upon during the interview, Durrant fails to teach or disclose each and every element of Claims 17 and 18, Applicant requests reconsideration and withdrawal of the rejection thereof.

Claim 17, as amended, recites in part:

determining the approximate distance between the base station and the mobile appliance based on the TA of the mobile appliance’s transmitted signal;  
determining an equivalent propagation distance of the one or more repeater stations;  
comparing the equivalent distance with the approximate distance.

As discussed during the interview, Durrant discloses determining whether a signal passes through a radio frequency (RF) repeater, however, Durrant does so in a fundamentally different process. For example, Durrant teaches using an LMU-B including a TOA receiver to measure propagation time delay between a mobile unit uplink signal and the LMU-B. *See 9:52-55.* Due to the addition of RF signal repeaters in the network, Durrant teaches using FSK modulation to generate a unique signal tag (shifting the local oscillator signal, mixed with the mobile station signal to generate a translated mobile station signal, up or down in frequency according to the command from the base station). *See 10:8-12; 5:65-6:26.* The unique signal tag is detected by the frequency discriminator in the LMU-B to generate a repeater ID. *See 10:9-12.* Since the repeated signal now has an electronic signature or repeater tag ID, the LMU-B or MLC can distinguish the repeated signal from a signal received directly from a mobile appliance. *See 10:9-12; 4:61-66; 3:14-18.* *Thus, it is this tagging, rather than the determination of any approximate distance and/or equivalent propagation distance (“EPD”) and the comparison thereof, that allows Durrant to determine whether or not a signal has passed through a repeater or whether a signal has been received directly from a mobile appliance.* Reconsideration and withdrawal of the rejection of Claims 17-18 under Section 102 are respectfully solicited.

**Rejections under 35 U.S.C. § 103(a)****1. Claims 1, 6-7, 19 and 23-26**

At paragraph 7 of the Action, the Office improperly rejected Claims 1, 6-7, 19 and 23-26 under 35 U.S.C. § 103(a) as being unpatentable over Durrant in view of Baker and Kuwahara. As discussed during the interview, Applicant submits that Durrant in view of Baker and Kuwahara fails to provide a *prima facie* case of obviousness, and Applicant respectfully requests withdrawal of the rejection under § 103(a).

As discussed above and during the interview, the method which Durrant employs is fundamentally different from Applicant's claimed subject matter, that is, Durrant fails to teach the determination of any approximate and/or EPD but rather utilizes signal tagging at a repeater to mark or tag a repeated signal. No portion of Durrant discloses or provides support for determining any approximate distance, EPD, or any comparison of the two. For this reason at least, any rejection of the claimed subject matter premised upon Durrant should fail.

It appears, however, that Durrant may indeed *teach away* from determining a figure of merit or any type of accuracy of an estimated location of the mobile appliance. While Applicant agrees that under the E911 standards some measure of accuracy is required for the compliance of a geographic location of a mobile device, such a disclosure cannot provide support under Section 103. Claim 1 requires a wireless communication system having at least one repeater; thus, the claimed subject matter determines an accurate geolocation of mobile appliances served by repeater stations. *See, e.g.*, para [0022] and [0023] of Applicant's published application. To the contrary, Durrant teaches using TOA

receivers to determine distance between LMU and mobile station, *assuming straight line propagation*. *See* Durrant at 9:65-10:5. In a wireless communication system having a repeater (as required by Claim 1), Durrant teaches “the assumption of straight line propagation is no longer valid.” *See* Durrant at 10:5-8. Therefore, Durrant teaches away from explicitly or implicitly determining an accuracy of the TOA estimate in a communication system having repeaters (which is expressly why Durrant tags a signal passing through a repeater).

As discussed above and during the interview, Durrant does not teach determining if a TA of the uplink signal of the mobile appliance can be associated with the EPD of the receiver; therefore, Claims 1 and 19 should be allowable over references of record for at least this reason.

## 2. Baker

The Office utilized Baker in an attempt to supplement the deficiencies of Durrant. While Applicant submits the amendment overcomes this rejection, Applicant notes that Baker, as a function of a discriminant applied by a repeater in a reverse link signal, controls and commands a remote station (base station 104 or control station 102) to a different power. *See* [0075]. This discriminant is in the form of an amplitude imparted to the power from a repeater. *Id. This discriminant is similar to the tagging in Durrant and as discussed above, is fundamentally different from the claimed subject matter.* Thus, Applicant submits that one of ordinary skill in the art would not utilize Baker in combination with Durrant to teach any of the claimed subject matter.

3. Kuwahara

While the Office admitted in the Action that determining and comparing a figure of merit to at least one threshold value is not disclosed in either Baker or Durrant (and Applicant concurs), Kuwahara cannot be combined with either of these references to teach this element or any of Applicant's claimed subject matter.

For example, Kuwahara discloses *mining a database* containing signals received by a base station. *See* para [0052] page 4. If propagation distance obtained by multiplying a delay of signals from a possible repeater and the delay of signals from a first base station by light velocity is longer than the distance between the first and another base stations, then the signals were received through a repeater. A threshold is set at double the distance between the first and another base stations. If the propagation distance is greater than this threshold, then the signals were received via a repeater. *Id.* As discussed during the interview, it should be noted that to combine Kuwahara with either Baker or Durrant would require a significant retooling of both Durrant and Baker as these two references are directed to signal tagging. Indeed, combining Kuwahara with the primary reference Durrant would *render the signal tagging invention in Durrant inoperable for its intended purpose*, that is, signal tagging would no longer be utilized. Thus, one of ordinary skill in the art would not combine Kuwahara with either Baker or Durrant to teach any of Applicant's claimed subject matter.

For at least these reasons, the Office has failed to meet its burden under Section 103(a) and Applicant respectfully requests withdrawal of the rejection of independent Claims 1 and 19. Claims 6-7 and 23-26 are dependent upon independent Claims 1 and 19.

Independent Claims 1 and 19 are in condition for allowance. By virtue of their dependency and without regard for the additional patentable elements contained therein, reconsideration and withdrawal of the rejection of Claims 6-7 and 23-26 are hereby solicited.

4. Claims 8-11

At paragraph 9 of the Action, the Office improperly rejected Claims 8-11 under 35 U.S.C. § 103(a) as being unpatentable over Baker in view of Kuwahara. Applicant submits that Baker in view of Kuwahara fails to provide a *prima facie* case of obviousness, and Applicant respectfully requests withdrawal of the rejection under § 103(a).

Claim 8 recites, in part, “determining a timing advance of the received uplink signal and comparing the timing advance with a known equivalent propagation distance associated with each of the one or more repeaters.” The Office’s rejection appears to admit that the primary reference Baker fails to teach this element and relies upon Kuwahara to supplement Baker’s deficiencies. As discussed above and during the interview, neither Baker nor Kuwahara may be relied upon in combination to teach Applicant’s claimed subject matter. Reconsideration and withdrawal of the rejection of independent Claim 8 is respectfully requested. Claims 9-11 are dependent upon independent Claim 8. Independent Claim 8 is in condition for allowance. By virtue of their dependency and without regard for the additional patentable elements contained

therein, reconsideration and withdrawal of the rejection of Claims 9-11 are hereby solicited.

5. Claims 12-16

At paragraph 10 of the Action, the Office improperly rejected Claims 12-16 under 35 U.S.C. § 103(a) as being unpatentable over Durrant in view of Kuwahara. For the reasons discussed above, Applicant submits that Durrant in view of Kuwahara can neither be combined to utilized alone to teach the claimed subject matter. Additionally, neither reference teaches determining a “probability” for any hypothesis.

As the Office is aware, the term “hypothesis” is generally an explanation for an occurrence of a specified group of phenomena. In this case, one hypothesis is whether the uplink signal is received directly from a mobile appliance, and the second hypothesis is whether the uplink signal is received via a repeater (see preamble of Claim 12). The probability of each of these hypothesis are, as claimed, a function of timing advance of a transmitted uplink signal, hearability of the transmitted uplink signal, and known locations and delays of the one or more repeaters. None of the cited references are directed to evaluating *probabilities* of whether or not a signal is received directly from a mobile appliance or via a repeater. Rather and as discussed during the interview, Durrant tags signals passing through the provided RF repeaters (*see* Durrant 2:62-67) -- *no probabilistic determination is ever made or contemplated*. While Kawahara cannot properly be combined with Durrant, Kawahara receives a delay measurement and compares this measurement to a threshold; however, like Durrant, *no probabilistic*

*determination is ever made or contemplated* in Kuwahara. For these reasons, Applicant respectfully requests reconsideration and withdrawal of the rejection of independent Claim 12. Claims 13-16 are dependent upon independent Claim 12. Independent Claim 12 is in condition for allowance. By virtue of their dependency and without regard for the additional patentable elements contained therein, reconsideration and withdrawal of the rejection of Claims 13-16 are hereby solicited.

### CONCLUSION

Applicant believes that the present application is in condition for allowance and, as such, it is earnestly requested that Claims 1-22 and 24-26 be allowed to issue in a U.S. Patent.

If the Examiner believes that an in-person or telephonic interview with the Applicant's representatives will expedite the prosecution of the subject patent application, the Examiner is invited to contact the undersigned agents of record.

The Office is requested and hereby authorized to charge the appropriate extension-of-time fees against **Deposit Account No. 04-1679** to Duane Morris LLP.

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